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EWMF

02/05/92

OEPA/DOE-FO  
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LETTER

## Southwest District Office

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2834

George V. Voinovich  
Governor

February 5, 1992

Re: EWMF

Mr. Jack R. Craig  
Project Manager  
U.S. DOE FEMP  
P.O. Box 398705  
Cincinnati, Ohio 45239

Date Rec'd FEB 10 1992  
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Dear Mr. Craig:

Listed below are comments and concerns that Ohio EPA has after review of the Revised Engineered Waste Management Facility Sampling and Analysis Plan. Addressing of these concerns will result in a better analysis of data that will be necessary as the RI/FS proceeds. DOE should be aware that some of these issues deal with ARAR compliance and proper NEPA documentation.

Response to Comments

1. Comment #6: The response to comment #6 states "Other constituents will be analyzed if they are found in soils at sufficient levels to be of concern for ecological risk." What criteria will DOE use to determine if "sufficient levels to be of concern for ecological risk" are present in soils?
2. Comment #3 and #15: Unless DOE has conducted studies in addition to those detailed in the March 1990 ASI/IT report, DOE has not collected enough detailed information on the presence of endangered species and critical habitat within the area of study for the EWMF. Since such data has not been provided to the EPAs and the work was not reviewed or approved by them, DOE may be at risk of having insufficient information to produce an acceptable and complete Feasibility Study.
3. Comment #16: a) The response fails to achieve the primary request of the comment, "A clear objective needs to be defined for collecting tree samples for uranium." DOE needs a clear objective to support its decision to sample and the method chosen for this sampling. b) It is still unclear why it is important to have data which is comparable to that collected at other sites. No clear use for such comparisons has been provided in the text or response to comments. Additionally, if the objective of this sampling effort is different from that of other studies then the usefulness of such comparisons is limited at best. Just because leaf and twig sampling is the most

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commonly used does not mean it is the most appropriate sampling to meet the objectives of this sampling effort. c) Sufficient time exists for altering the tree sampling protocol if leaf and twig tissue will be sampled. Leaf tissue will not be available for a number of months for deciduous trees. d) The response states, "However, the sampling plan already recommends further tree sampling if hazardous constituents are found in soil at concentrations likely to result in significant uptake by trees." What criteria will DOE employ to determine if sufficient concentrations are present to result in significant uptake?

4. Comment #17: a) Antimony is a constituent of concern in Operable Unit 5 as shown in Table 4-2 of the Risk Assessment Work Plan Addendum (10/91). Additionally, the most recent response to comments submitted for the Waste Pit Area Stormwater Runoff Removal Action contained a data package for 44 soil sample locations within OU1 (see enclosure). All sampling locations had antimony concentrations in excess of 8.8 ppm, with an average concentration of 25.36 mg/kg and a maximum of 34.1 mg/kg. These data support the need for antimony to be included as an analyte in Table A.1. b) A number of the inorganic constituents listed in Table A.1 will also be available from TCLP extractions but are included here. The methodology of the two tests are different and suggest that organic constituents need to be analyzed under the modified ANSI/ANS-16.1 procedure.

#### SAP Appendix A

5. Appendix A: The use of waste from a single operable unit waste stream and the use of a modified ANSI/ANS-16.1 will not meet the requirements of the Technical Position on Waste Form (Revision 1) developed by the USNRC (January 1991). This document constitutes a TBC and should be reviewed for its impact on Treatability Studies and Feasibility Studies.
6. Appendix A, Page 5, Table A.1: The table contains a number of typographical errors which were not noticed previously but need to be corrected. Under 5 Days, delete one Be and add As, Hg, K, Pb, and Se. Under 45 Days, delete one Be and add As, Hg, K, Pb, and Se. Under 90 Days, delete one Ba and add Fe and Tl.

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If you have any questions about these comments and concerns,  
please contact me.

Sincerely,



Graham E. Mitchell  
Project Manager

GEM/acn

Enclosure

cc: Section Manager, DERR, T&PSS  
Jim Saric, U.S. EPA  
Lisa August, GeoTrans  
Ed Schuessler, PRC  
Robert Owen, ODH

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## WASTE PIT RUNOFF CONTROL REMOVAL ACTION

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INORGANIC COMPOUND	EPA SAMPLE NO.		SAMPLING RESULTS (mg/kg)/Q																										
	61002	61009	61016	61023	61030	61037	61044	61050	61056	61063	61072	61079	61093	61100	61107	61114	61121	61128	61135	61142	61150	61156	61163						
ALUMINUM	6200	2800	4320	7470	9410	2580	5300	7100	5800	2880	5330	4170	11700	10900	13500	5340	6910	4690	9980	7450	6450	6520	10000	7950	8480	8840			
ANTIMONY	28.4	22.6	30.8	27.9	21.3	22.7	29.6	19.8	28	25.1	20.3	22.6	25.5	29.7	32.8	28.3	28.3	23.7	29.8	32.3	22.6	31.3	28.6	15.9	30.2	18.3			
ARSENIC	6.7	4.1	4.7	6.4	4.2	4.2	4.5	3.9	3.8	3.8	3.8	5.3	9.8	10.5	5.4	3.8	8.5	8	6.7	6.8	6.4	2.7	6.4	7.8	5.2				
BARIUM	49.2	31.4	42.6	52.5	64.7	27.2	49.8	62.8	51.9	22.5	48.2	34	92.3	113	123	47.9	52.6	44.7	74.4	49.5	49.8	80.3	67.3	84.8	47.7	60.5			
BERYLLIUM	0.73	0.62	0.67	0.75	0.69	0.58	0.76	0.63	0.72	0.63	0.62	0.65	0.78	0.7	0.97	0.64	0.88	0.7	0.86	0.74	0.67	0.93	1	0.61	0.89	0.71			
CADMIUM	5.6	5	7.7	5.7	3.4	4.6	5.9	3.3	5.7	5.5	4	5.3	3.2	4.9	4.7	5.6	5.8	8.3	4.9	6.2	5.8	6.1	4.7	2.5	8.7	2.7			
CALCIUM	64300	137000	124000	99100	26400	143000	155000	35000	101000	152000	73900	130000	21000	23300	41000	85300	108000	123000	68800	87200	72700	190000	131000	11000	80900	17500			
CHROMIUM	19.8	7.8	11.3	16.3	17	6.1	7.4	14.4	14.4	8.9	13.3	8.8	18.8	22.8	24.6	14.8	13	10.2	18.4	17.8	14.6	18.6	15.8	13	18.4	14.2			
COBALT	11.8	6.6	8.8	10.8	11.1	7	8	8.2	10.8	7.3	8.5	7.4	17	14.8	16.7	9.4	8.7	7.8	11.3	10.6	8.7	12.8	12.4	8	13	9.7			
COPPER	10.9	12.1	15.7	18.3	14.6	11.4	18.5	14.8	14.8	13.3	13.8	15.4	17.8	23.8	25.9	17.4	18.2	19	19.2	20.5	17.6	21.7	20.2	15.4	23.8	15.7			
IRON	21200	6670	13200	17800	18900	7180	13100	14900	8200	16700	9610	23800	26300	27800	13500	13300	11100	18100	17200	16200	19800	20400	17000	25200	18100				
LEAD	8.9	34.3	7.9	10.5	12.1	8.4	13.5	12.1	7.9	6.8	7.8	12	12.0	10.8	16.8	8	10.6	8.7	16.8	10.8	12	10.2	6.7	18.2	14.4	15			
MAGNESIUM	22700	21200	38900	21900	8550	18900	25800	12000	24800	25000	12500	24300	6370	14400	13700	24200	26800	23600	18000	25100	25000	28000	15400	6930	28300	8840			
MANGANESE	413	423	317	438	655	426	638	512	556	445	707	391	759	1130	841	391	471	372	528	478	457	529	498	609	490	478			
MERCURY	0.12	0.11	0.11	0.12	0.12	0.11	0.11	0.13	0.12	0.11	0.11	0.13	0.12	0.11	0.11	0.1	0.11	0.12	0.11	0.12	0.12	0.11	0.12	0.12	0.12	0.12			
MOLYBDENUM	4.7	3.7	5.7	4.6	3	3.9	4.1	2.6	4.4	3.0	3.3	4.1	4.7	4.8	4.6	4.1	4.8	4.3	4.6	4.4	3.6	3	6.7	3.1					
NICKEL	41.3	24.8	28.4	27.8	27.9	19.7	26.8	20.3	31.9	19.7	20.8	22.4	23.1	38.9	38.5	25.1	22.8	23.1	26.6	31.3	26.8	35	30	22.1	35.1	21.8			
POTASSIUM	1070	434	880	1210	1000	448	849	1120	951	688	686	692	707	1430	1300	674	707	788	988	1010	630	1100	949	994	1030	724			
SELENIUM	0.49	0.44	0.44	0.5	0.6	0.45	0.54	0.5	0.48	0.45	0.45	0.45	0.5	0.5	0.44	0.43	0.44	0.49	0.46	0.46	0.46	0.48	0.48	0.48	0.46	0.46			
SILVER	10.4	7.8	9.4	10.3	7.2	7.6	6.7	7.3	10.3	6.7	9.4	7.6	6.8	6.6	8.7	9.2	8	7.7	9.7	9.7	9	9.7	8.4	3.9	10.1	4.9			
SODIUM	88	137	134	109	92.5	135	165	83.0	161	140	140	54.0	119	108	111	145	145	99.2	107	125	122	97.9	43.8	114	50.5				
THALLIUM	0.40	0.44	0.44	0.68	0.5	0.45	0.48	0.5	0.45	0.45	0.45	0.45	0.5	0.5	0.44	0.43	0.44	0.51	0.46	0.48	0.48	0.48	0.48	0.48	0.48	0.46			
VANADIUM	23.8	11.2	16.4	22.2	23.8	10.9	15.4	18.8	18.9	11.8	18	13.9	26.0	27.7	33	18.1	18.2	16.9	25	24.6	20.0	22.0	24	10.1	24.6	21.2			
ZINC	49.6	21.0	35.3	42.5	46.7	28.9	32.2	38.6	40.0	23.0	27.7	60.2	47.8	65.2	64.6	37.9	32.0	34.8	47.4	47.6	37.4	61	45.4	48.7	56	59.4			
CYANIDE	0.12	0.11	0.11	0.12	0.13	0.11	0.13	0.12	0.11	0.11	0.12	0.12	0.11	0.12	0.11	0.12	0.12	0.11	0.11	0.12	0.12	0.11	0.12	0.11	0.12	0.11	0.17		

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## WASTE PIT RUNOFF CONTROL REMOVAL ACTION

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INORGANIC COMPOUND	EPA SAMPLE NO.														SAMPLING RESULTS (mg/kg)Q				STD	AVERAGE	DEVIATION
	61088	61191	61196	61205	61212	61219	61220	61233	61240	61246	61254	61260	61268	61275	61282	61289	61295	61302			
ALUMINUM	5240	7500	10000	10400	12000	4010	7100	7120	8110	10100	8770	5410	5130	8240	12500	7080	8820	8170	7588.86	2691.56	
ANTIMONY	32.8	12.9	25	30.1	26.3	34.1	12.8	21.7	30.2	18.2	20.6	20.4	22	28.2	23.3	22.1	25.2	20.4	26.36	6.12	
ARSENIC	4.3	3.7	7.3	8.3	8.8	9.1	6.2	32.8	5.1	5.2	0	4.6	4.9	7	6.8	3.8	5.8	6.4	6.33	4.42	
BARIUM	37.8	49.8	78.9	84.4	97.9	55.1	58.9	56.1	63.4	79.1	75.2	58.3	40.8	65.4	99.2	68.1	73.8	70.3	61.70	21.59	
BERYLLIUM	0.73	0.54	0.9	0.82	0.89	2.3	0.53	0.55	0.74	0.75	0.7	1	0.61	0.81	0.81	0.71	0.8	0.45	0.74	0.28	
CADMIUM	7.5	1.7	3.1	4.8	3.1	9.9	2.3	3.3	5.3	3.4	3.7	6.6	5	6.4	2.8	3.2	4.3	6.8	4.78	1.43	
CALCIUM	123000	4880	49700	42700	13500	177000	19700	38000	68800	24700	33100	104000	79000	87800	16300	28000	69800	74000	74206.38	46772.75	
CHROMIUM	11.9	10.5	18.6	21.6	19.8	30.3	13.2	15.8	17	17.1	16.7	12.4	13.7	16.8	18.3	15.3	17.9	19.2	15.55	4.78	
COBALT	0	8.1	11.4	13.2	11.0	11.4	8.8	8.1	10.1	8.8	10	6.8	7.5	10.0	11.1	9.3	8.9	11.5	10.17	2.30	
COPPER	19.7	10.9	18.1	21.6	21.2	20.3	13.2	14.8	17.5	14.8	18.2	16.7	18.0	26.9	15.3	17.8	20.1	22.6	17.00	3.96	
IRON	12800	18100	19500	23100	25300	6380	16300	12900	15200	19300	19200	7160	11500	17100	22500	14300	17800	22900	16002.27	5252.95	
LEAD	7.9	14.6	18.6	20.7	14.3	81.4	20	29.7	9.9	14.7	17	20.4	17.2	0.47	17.7	16.1	21.6	19.8	15.39	11.72	
MAGNESIUM	30000	3050	6910	16700	6210	31800	5710	10500	20500	9220	10800	32900	20800	22200	6440	10800	14900	20700	18327.05	9035.14	
MANGANESE	329	367	774	602	671	489	528	465	530	473	522	694	380	478	539	346	518	543	624.41	149.70	
MERCURY	0.11	0.13	0.12	0.14	0.12	0.1	0.12	0.11	0.11	0.12	0.11	0.12	0.12	0.11	0.12	0.12	0.12	0.12	0.12	0.01	
MOLYBDENUM	4.7	2.7	3.8	4.4	5.2	11.4	2.4	4	2.7	3.2	4.4	4.5	4	2.3	2.6	3.6	4.8	4.16	1.43		
NICKEL	26.7	15	21.1	31.6	27.3	30	16.3	19.5	27.6	22.0	23.2	60.2	20.6	26.4	26.9	23.1	23.9	34.6	28.70	6.83	
POTASSIUM	813	477	948	1030	664	495	720	742	752	888	1090	763	848	1110	1050	942	1120	1020	882.27	225.10	
SELENIUM	0.44	0.53	0.51	0.50	0.47	0.48	0.48	0.44	0.48	0.54	0.62	0.48	0.47	0.46	0.49	0.49	0.49	0.5	0.48	0.04	
SILVER	8.7	2.7	8.9	9.3	4.6	31.1	5.1	7.7	9.1	9.2	7.1	9.3	8	10.2	4.8	7.1	9.4	9.7	8.45	3.93	
SODIUM	122	42	75.0	77.4	42.7	166	65.6	66.4	97.2	88.1	86.2	185	84.8	120	66.9	73.6	91.7	128	104.99	35.53	
THALLIUM	0.44	0.53	0.51	0.50	0.47	0.51	0.48	0.44	0.48	0.48	0.48	0.48	0.47	0.46	0.49	0.49	0.49	0.5	0.48	0.04	
VANADIUM	17.9	18.5	25.0	20.4	29.3	24.0	20.1	20.3	22.0	23	23.7	13.6	17.0	23.8	26.8	19.0	22.9	25.9	21.19	4.87	
ZINC	70.9	34	65.4	67.5	61.4	62.4	37.8	79.5	43.0	45.0	49.3	28	42.6	42	51.2	46.1	61.3	57	46.49	13.11	
CYANIDE	0.6	0.17	0.24	0.14	0.12	0.14	0.11	0.12	0.11	0.11	0.71	0.12	0.12	0.26	0.19	0.8	0.12	0.17	0.13		